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PAGES (including cover):

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April 24, 2005

Noah Kamen
Primary Examiner
Art Unit 3747

Application Control Number:
10/612,526

Dear Examiner Kamen:

I thought it best to address your concerns in writing for your review and later to phone you for your opinions.

Your concern about the word "constant" in the phrase "constant pressure reservoir" could be addressed by changing the word to "controlled". Actually, the word "constant" is appropriate in the current usage of the word.

The reservoir is to be pressurized to exactly balance the force on the moveable crankshaft assembly when the engine is operated at full power and at the lowest compression ratio of the moveable compression ratio. This compression ratio is the maximum compression ratio possible at full power without premature detonation. At less than full power, the fuel/air mixture enters the cylinder at reduced pressure and temperature due to throttling, allowing greater compression.

In every cycle, the maximum force will be exerted for a brief period. Lower pressure will occur, mostly during the expansion of the combustion gasses. Unless restrained, this could cause undesirable cycling. Accordingly, flow in the direction to increase the compression ratio is restricted. Note the small relief valve (21) on Figure (2), indicating the desirability of having an orifice in this line.

In addition, a typographical error is continued on my application under "Claim Amendments". Claim 5 should be read, in part, "between the hydraulic positioning device and the constant pressure reservoir".

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